DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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BLOODY MILK.

The inquiry made a few weeks since by one of our correspondents, "What causes cows to give bloody milk, and what will cure it," has led to some replies, and among them, one from a correspondent at Bristol, Vermont, which will be found in another column. Cows being the most profitable part of our farm stock, their diseases become important questions of interest as well as humanity. We have therefore deemed the subject worthy of some extended remarks. It would be as sensible to take a slow coach through the mud, to visit a sick friend at a distance, when a fast car is running in the same direction, as it is to adhere to old modes of administering medicines under the new light which has dawned upon the whole materia-medica. The world is progressing in everything, and we may as well be out of it altogether, as not progress with it. Cold water and pure air were once refused the patient in fevers; but who but an insane man would think of refusing them now. If it was once supposed that a certain disease was induced by a general derangement of the whole system, it might have been proper to prescribe garget as a remedy, in the absence of any certain knowledge as to what was required; but now, when it is well known that the same disease is local, affecting only one part, while all the rest is in health, it becomes not only useless, but cruel, to administer substances which will not affect the disease, but cause additional pain to the suffering animal.

When our correspondent, however, informs us that he has witnessed the effects of a specific for *more than half a century*, with the highest gratification, we really feel a diffidence about remarking upon his letter at all; being almost persuaded that an observation extended through so many years, *must* be correct in its conclusions, and that a practice adhered to so long, must also be a safe one. Indeed, if we were not sure that popular errors had run through a cycle of years far outnumbering his "half century," and that new light is constantty dawning upon the pathological treatment of diseases, we should bow in deference to his large experience, and raise no warning voice. But we cannot hold ourselves harmless in sanctioning error by silence, any more than to propagate it by open declaration. That the subjects discussed in these columns may not mislead, the editors write only from close personal observation or actual experience; or, when the matter introduced is foreign to their particular province, they refer to those who are competent and skilful on the subject-matter in question. We have long had our doubts of the propriety of using powerful drenches, cathartics, and prostrating depletions, on our domestic animals. Though they are our servants, and subject to our will, we are bound to treat them humanely. Rash experiments by inexperienced persons, either with drug or knife, are cruel and inhuman, and it shall be our effort to discourage and discountenance them with whatever influence we may exert.

Cows not unfrequently give bloody milk. In our own stock there are cases of it every year. It continues for a day or two and then subsides, without administering medicine, or making any external application except bathing the udder in cold water. It is *never* accompanied by any of the symptons called *Garget;* there being no swelling, inflammation, or soreness of the udder apparent. We are, therefore, inclined to think the "bloody milk" disease, and the disease occasioning a swollen and inflamed udder, and frequently accompanied by hard lumps, to be widely unlike each other, and originating in different causes.

In order to be able to gain all the information which could be readily come at on this subject, we called upon Dr. Dadd, a Veterinary Surgeon of much experience in this city, and he stated to us that a mixture of blood with the cow's milk might result from various causes, but that the most frequent are local inflammation of the mam-

mary gland, which causes an increase of the arterial ramifications, and results in an *afflux* of blood; surcharging the small capillaries, producing extravasation and forcing blood out of the walls of blood-vessels. And secondly, a loss of equilibrium in the circulation of the vital fluid; whereby congestion of the blood-vessels in the udder takes place; resulting in extravasation, or unnatural flowing of the fluids from the ducts or vessels.

These cases are sufficient as examples; yet in themselves they are but results, for, preceding them were others—such as kicks or blows on the udder, termed direct causes; others, operating indirectly, such as plethora, &c. Violent *tuggings* at the teats by an inexperienced hand may also be classed among the direct causes of bloody milk; for then the small blood-vessels are lacerated.

The article recommended in the communication of our correspondent, *garget*, known to botanists as *phytolacca decandra*, is a powerful nauseant, irritant and narcotic. A number of years ago it was proposed, in human practice, as a substitute for ipecacuanha, but it was found wholly unfitted for the purposes which the latter article is calculated to fulfil. It produced excessive vomiting and purging, attended with great prostration of strength, and sometimes with convulsions. It is seldom if ever used with veterinary practitioners.

We respectfully object to our correspondent's mode of using the article, cut up into pieces "*four or five inches long*," with the fixings, (pork and thread,) and doubt very much if, after cramming it into the cow's mouth, she could be made to chew and swallow it. And if so, it would take a long time for the gastric fluids, in the stomach, to decompose it, so as to affect the disease.

"In its green state," he says, "it requires about double what would be required when dry." We think that in its green state it is even more active than when dry. "Its virtues are diminished by keeping, and in the course of twelve months it becomes inodorous." *See U. S. Dispensatory, p.* 487.

If, however, people prefer to use the article, why not give it by infusion. For every particle of active matter is imparted to boiling water. We can only add that we sincerely respect every man's honest opinions, and that the long experience of our correspondent in the use of garget ought to entitle it to a fair trial, with all those who know of no better remedy, and think its use efficacious and safe.

☞ November has been a rough month. The ground as far south as the neighborhood of Boston, has been several times covered with snow, and frozen so as not to thaw in the middle of the day.—Snow fell to the depth of three inches at Fitchburg on Thursday, and in Maine there is at present good sleighing.

THANKSGIVING.

Another of these interesting anniversaries has just passed away; it has been a refreshing halting-place in the confusion and hurry of life. We hope every individual sat down to a bountiful table, with a heart big with gratitude to the Great Provider for all;—remembering that it is He who has continued our lives, given us joy and health, filled our garners with food, and preserved the social dispositions which have kept bright the chain of friendship, and united us in the bonds of affection and love;—That it is He who has controlled the seasons, and tempered them with His sun and wind and showers, and made them fruitful for us;—That He has "sent the springs which run among the hills, into the valleys," filling them with beauty and with life, and "watered the hills from his chambers," till the "earth is satisfied with the fruit of his works."

Thanksgiving! We trust there was a universal Hymn of it throughout the land—that the heart of each yearned towards his neighbor, and that the humble and the poor all had "their meat in due season." ☞ If Thou wert not thankful then, be so now.

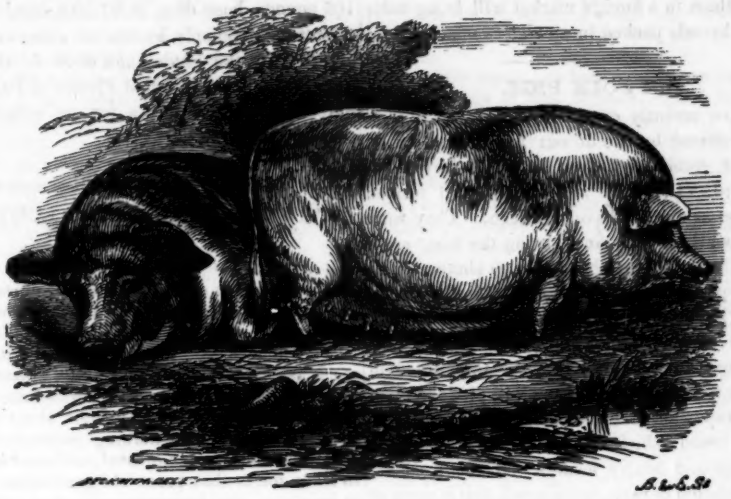
Cold winds pinch the unprotected, and colder neglect crushes the best affections of the heart. The poor ye have always with you. Go, then, and from thy bountiful store, give warmth and food to those who have had No Harvest to gather; then will the voice of Thanksgiving be heard in their dwelling, and their "meditation of thee shall be sweet."

Cherish this institution. Tell your children how in the stormy December our forefathers landed on "the stern and rock-bound coast"—how in the midst of suffering and privation they erected the Church and the School-House, and planted their principles in the New World. And although smitten with disease and more than decimated by death,—though reaping scantily where they had toiled and sowed in pain and in fear, yet how joyfully they gathered themselves together and united in anthems of Thanksgiving and Praise to Him who had brought them in safety across the wild waste of waters, and given them "freedom to worship God."

Cherish this institution, then, in deep-felt gratitude, in hymns of Thanksgiving, and in affectionate remembrances of those who can be made happier by your kind acts; then will it be handed down to future generations, to make glad the family hearth and embalm the memory of the Pilgrim Fathers.

☞ We have received several varieties of fruit, which will be particularly acknowledged in due time.

☞ "Here's a cent," said a wealthy man to a poor cripple. "I was poor once myself."



GROUP OF CHINESE PIGS.

We insert the above cut more as a matter of curiosity, than with any desire to recommend this breed. There are two distinct varieties, the white and the black; both fatten readily, but from their diminutive size, attain no great weight. They are small in limb, round in body, short in the head, wide in the cheek, and high in the chine; covered with very fine bristles growing from an exceedingly thin skin; and not particularly symmetrical, for, when fat, the head is so buried in the neck that little more than the tip of the snout is visible. The pure Chinese hog is too delicate and susceptible of cold ever to become a really profitable animal in this country; it is difficult to rear, and the sows are not good nurses; but one or two judicious crosses have in a manner naturalized them.

This breed will fatten readily, and on a comparatively small quantity of food; and the flesh is exceedingly delicate, but does not make bacon, and is often too fat and oily to be generally esteemed as pork. They are chiefly kept by those who rear sucking pigs for the market, as they make excellent roasters at three weeks or a month old. Some authors point out five, some seven varieties of the Chinese breed, but those are doubtless the results of different crosses with our native kinds. The above cut, with several others purchased expressly for our columns, were taken from the living originals for the International Magazine, published at New York.

New History of Boston.—Messrs. Little & Brown have in press a "Municipal History of Boston," from 1630 to the present time, by Hon. Josiah Quincy. This is a work much needed, and the name of the author is a guaranty that it will be well executed.

PACKING APPLES FOR FOREIGN MARKETS.

As this is about the time when most of the apples are prepared for shipment to foreign markets, it may be well to say a few words on the subject. No care, however, in packing for transportation, will preserve the fruit unless it has been properly gathered in the first place. Premising, then, that the apples have been properly collected and preserved, the business of packing them is not a difficult one, so that they may be transported any distance, by still continuing to them the same care which they have had from the beginning.

Flour barrels are as cheap and convenient as any thing for them. They should be perfectly clean, sweet and tight. The apples should be assorted, rejecting all that are wormy, bruised, or mis-shapen, leaving only such as are hard, good sized, and handsomely shaped, as every one that is deficient in these qualities operates as a discount upon all the rest, when opened in a foreign market.—Place some soft substance on the bottom of the barrel, say cheap cotton or soft paper, and then after wiping the apples, roll them in dry paper and place them in layers with the stem end up, until the surface is covered, and so closely that they cannot jostle upon being moved with the barrel. Cover these with the cotton or paper, and proceed in this manner until the barrel is full. The barrel must be filled so full as to require the head to be pressed gently down; this will prevent all motion among the apples themselves, while the barrel is conveyed from place to place. We practice a similar mode to keep our apples for family use, and find it a good one. It is but a little labor to wrap a barrel of good-sized apples in paper, and where old newspapers are abundant, the expense is very trifling.

Apples prepared in this manner will keep well

and bear any necessary amount of motion; and one barrel of them in a foreign market will bring more than two barrels packed in a careless manner.

SUFFOLK PIGS.

We have recently examined a pair of Suffolk Pigs, purchased by one of our publishers, Mr. J. Raynolds, from the stock of Mr. J. L. Lovering, of Hartford, Vt., which we think as well formed and perfect as any we have ever seen. They were engaged nearly a year since, being the first, since that time, which he has been able to obtain. The beautiful portrait which we gave in April last, is a perfect likeness of one of the same stock, and was taken expressly for the columns of the Farmer. From our experience with this breed of swine, we are satisfied that they will produce more pork in proportion to the food they consume, than any other breed which we have known, and they are constant and hearty feeders. If the same remark in relation to pork, holds good, that is made of beef, viz: that beef which is fatted rapidly is the sweetest and most tender, then this pork ought to be better than any other, for the Suffolks grow and lay on fat very rapidly. This may be accounted for in some measure by their quiet and contented disposition—eating and sleeping being their principal business of life. From these specimens, and others of his stock, which he has sent to this market, we do not hesitate to refer purchasers to Mr. Lovering, if they desire the pure Suffolk breed of swine.

The reader will find a more particular account of this breed under the engraving in the April number of the Farmer. That portrait was taken from a pig raised by Mr. Lovering and sold to Mr. Alonzo Andrews, 38 School Street, who still has him in his possession, and pronounces him one of the most perfect of his kind.

For the New England Farmer.

PRICE OF GUANO, &C.

Gentlemen:—Will you inform me what the price is per cwt. of Guano, unadulterated; of sulphate of soda (Glauber's Salts); of Bone Dust; of Nitrate of Potash, and of ground or calcined Plaster of Paris, as I desire to obtain a quantity of each for some experiments, in your vicinity.

Truly yours, H. H. S.

Washington, D. C., Nov. 16, 1851.

Remarks.—We reply to our correspondent's queries through the columns of the Farmer, that it may be an answer to other letters of inquiry, as well as his, on the same subject. Peruvian guano is scarce and high, the price ranging from $40 to $60 per ton, and constantly fluctuating, as there is more or less in the market. The Chilian and Ichaboe may be purchased for much less; but at a low price would probably be more costly than the pure Peruvian. Sulphate of soda, or, better known as Glauber's salts, is selling at 75 cents per 100 pounds, bone dust, at $1,50 a hundred, nitrate of potash, commonly known as nitre, or saltpetre, at $700 for the crude, and $800 for the refined, per 100 pounds. Ground Plaster of Paris may be purchased for about $5 a ton, or something less than that in large quantities.

For the New England Farmer.

A FEW MORE REMARKS ABOUT APPLE TREES.

BY HENRY F. FRENCH.

A novelist, in one of his stories, portrays an old gentleman who set up for a wit, upon one joke only, which he was careful to show off as entirely new, whenever he met a stranger, with the remark aside, "Well, I don't think I ever said that to *him* before." Perhaps they who have heard and read what I have said and written about apples and apple-trees, may find nothing particularly new in what may now be suggested, and may be inclined to liken me to that same old gentleman, but I can at least say, that however much of a hobby I have made of the subject, I have never published any thing upon it in the New England Farmer.

And as my name is in print at the head of the columns, it may as well be understood, first as last, that I consider it my special mission among my agricultural friends, to induce them to plant trees; shade trees of all kinds for ornament, and fruit-trees for profit.

Although there are a few men in most New England towns, who know perhaps, all that can be learned, by reading, on these subjects, yet the greater part of those who plant fruit-trees, as was remarked in a recent number of the Farmer, plant and manage them so badly, that not one of three ever produces a crop of fruit.

This is partly because the best mode of culture is not understood, but oftener, perhaps, the result of a sort of reluctance, apparently natural to most men, to doing as well as they know how to do.—Any man of common sense knows that a hill of corn planted in the turf of a grass field, would never grow, and it would seem manifest that a tenderly reared tree from a nursery, deprived of half its roots in transplanting, could bear adversity no better, yet nearly one-half of all the apple-trees in New England have been heretofore planted in grass land, and the ten thousand little mouths of the grass roots have drunk up the moisture and fertility of the soil, and left the trees to shrivel and die of thirst and starvation.

It is not absolutely necessary to keep the whole surface of a young orchard under cultivation.

For the first five years after an apple-tree from a nursery is set, the roots will find sufficient space, if a strip eight feet wide, four on each side of the tree, be kept thoroughly worked and manured, leaving the remainder in grass.

Perhaps it may be better to cultivate the whole, but it is almost impracticable, upon ordinary farms, to keep any considerable extent of orchards constantly under the plow. I have, this autumn, prepared about three acres of land for planting with apple-trees next spring, in a mode which seems new to those who have observed it, and which it may be useful to owners of new land to know. A heavy growth, chiefly of white pine, was taken

from the land three years ago. It was never burnt over, and white birch and other bushes had sprung up, so that it had a month ago as little the appearance of an orchard, as any tract in the State. Having cut the bushes, I staked the land out for the rows of trees, twenty-eight feet apart. Three men with hand tools, without cattle, in one week dug out nearly all the stumps and visible roots within four and a-half feet of the rows staked out. Then with three yoke of oxen, in three days the strips nine feet wide were plowed by back-furrowing more than a foot deep. Two men were required besides the driver and plowman to do this work, one with a sharp axe to cut off the roots which were found by the plows, and another to follow with a hog-hoe to mend the broken furrows.

The land, being free from stone, is thus thoroughly worked in strips of nine feet wide one way, through the tract, leaving about two-thirds of it in possession of the pine stumps, to be dealt with at some future day.

I am now having holes dug for the trees, *six feet* across, and *eighteen inches* deep. The soil thrown out is to be mixed with about three bushels of compost manure from my barn cellar, and half a peck of ashes to each tree, to lie in heaps until the time for setting the trees in the spring.

I mention the *manure* particularly, because an article has been recently published by high authority, objecting to the use of any manure in planting fruit trees.

Green manure should never be used about any trees; but compost, which will not ferment, may be applied in the manure I have mentioned, with manifest advantage, as my own trees bear abundant testimony.

By planting the plowed strips of my new orchard with potatoes and corn, I think the trees will flourish as well for five years, as if the whole ground were worked. Then the whole should be cleared up and *subsoiled*, and the fruit will abundantly pay after that time for any reasonable expense of cultivation.

To show by facts, and not theories merely, the advantage of raising fruit, I will state what has been the value of the crop of a single orchard to which reference has before been made in the Farmer. Mr. Joseph Robinson, of Chester, N. H., has an orchard of less than two acres, which produced a crop of fruit in 1847, for which he was offered six hundred dollars, on the trees; in 1849, a crop which sold for six hundred and eighty dollars; and this year he was offered $425 for the fruit on the trees, and declined the offer. His orchard has been long in full bearing, and bids fair to last for a generation to come. His fruit has been sold in the neighboring markets from one to three dollars per barrel. From his own account I am satisfied that the average nett income of that orchard for ten years past has been more than three hundred dollars a year—the interest of *five thousand dollars!*

A gentleman in Hampton, in this State, sold the fruit of about four acres of land, this season, for $800, and last year he received $1400 for the fruit of the same orchard.

Now if we were credibly informed that so profitable a business as this could be done in California, flocks of our young men would peril health and life even, to find the golden soil; but it is too matter-of-fact a business to remain and labor *at home*. It requires six years for trees which we get from the nurseries to come into bearing, and many of our *young* men are too old to wait so long.

I recently met a gentleman, who has one of the finest orchards in this vicinity. Said he, "I am more than seventy years old, but I have set over a hundred apple trees this fall." Mr. McClintock, of Portsmouth, who is now ninety-four years of age, this year ate of the fruit of trees planted with his own hand when he was *eighty-six!*

And by-the-way, there is no doubt that a man who plants trees in his old age, lives the longer for doing it. An interest in the works of nature—which calls him to active exercise, and keeps up his sympathy with the pursuits of other men, prevents him from breaking down at once like the retired merchant or professional man, who dies prematurely for want of anything else to do!

As a profitable investment of capital, there is nothing that now promises better for a half century in New England, than fruit raising. The cry of an over-supply has been kept up for fifty years already, and still the price of fruit has regularly increased. Mr. Robinson says that when he planted his orchard with seedling trees more than fifty years ago, his friends told him there could never be a demand for so much fruit.

Nobody doubts that just at this time, an orchard is of more value than land in any other use. The most obtuse intellect yields to a mathematical demonstration by simple addition; but still the doubt is, whether there can be a demand for all that can be raised. This question was ably considered in a recent number of the Farmer, by one of the editors, and need not be here pursued.

Let the subject of fruit be kept steadily before the public, in our Agricultural journals.

Many will read, and profit by what they read, and many more will doubt and hesitate, and in future years, regret, as so many are now daily heard to do, that they had not begun in their younger days to plant trees. H. F. French.

Exeter, N. H., Nov. 15, 1851.

For the New England Farmer.

CRANBERRY CULTURE ON UPLAND.

Gents:—I perceive that doubts remain (see Ploughman and Farmer of this date, Nov. 15) of the practicability of successfully growing the cranberry, on upland, or high-land, as distinguished from meadow, in Yankee phraseology. As this is one of those fruits found on the soil of New England, by our fathers, at a period of earliest memory, it seems to me too late to doubt the positions in which it can be grown. That the cranberry does grow, and in great abundance too, on many meadows without the aid of culture, there can be no doubt. That it can be grown above the meadows, on soil sufficiently elevated for the purpose of growth of corn or garden vegetables, is to my mind equally certain.

This fact has been demonstrated, by the continued cultivation by the Messrs. Needham, of Danvers, of about half an acre of land, near where the toll-house used to stand on the Newburyport turnpike. This spot is in a valley near the height of land between the sea and Ipswich River, and I should judge it to be sixty feet above tide water. In the spring of the year, there would

sometimes be an accumulation of water upon this land; but its natural product is English grass. I am the more particular in describing the position, that those who have not the privilege of viewing, may understand it. On this ground there has grown the present season many bushels of cranberries of the largest size and finest quality I have ever seen; (and I profess to be a judge of the quality, being an extravagant admirer of it, when prepared for the table; thinking it more palatable than any other sauce within my knowledge.) In fact, I have always viewed it as an indispensable accompaniment of a good Thanksgiving dinner. One of those New England customs, peculiarly proper to be consecrated by the use of New England fruits and fowls.

I have spoken of the feasibility of growing this fruit on the upland, as being beyond doubt; but of the expediency of it, as a matter of profitable culture, I am not fully advised. I have endeavored, by repeated inquiries, to ascertain this from Mr. N. himself; but the probability is, he has pursued the culture, *con amore*, with such a determination to test its feasibility, that he is not able to speak with confidence as to the labor consumed by it. Everything necessary to be done to keep the patch in best condition, has been done by him. It has always appeared entirely free of grass and weeds. The only dressing that I have witnessed being applied was pulverized meadow mud, strewed between the rows of plants, and gathered by the hand about the roots. In September, the runners fully covered the ground; and the berries, for a space from six to twelve inches in width along the rows, were as thick as they could lie—in many instances, as they expanded, crowding each other from their places. A specimen of these cranberries, thus growing, was exhibited at the late Show in Salem (Sept. 25th) and viewed with admiration by all those who had any just appreciation of the philosophy of culture. I have seen accounts of cranberries being successfully grown on banks of sand; and that sand is a good application to encourage their growth. How this may be, I cannot say from my own observation. I think I have seen something of the kind, in the publications of the Plymouth Society. "The natural cranberry is such a capricious character, that all efforts to improve the crop are in vain,"—says your correspondent, S. B., of Wilmington, who lives in the region of cranberries—but such is not the testimony of the Messrs. Needham and Fowler, of Danvers; gentlemen of as much discrimination in their observations of culture as any within my knowledge.

I understand Mr. N. to say, that he considers *meadow mud*, in some form, essential to the healthy growth of the cranberry. This shows that Nature made no mistake in her selection of positions for the growth of this plant. Perhaps you may think that I have spun my yarn to an unreasonable extent, on so small a topic as the cranberry. Nevertheless, if I can induce any one to pursue the culture of this plant, until he can explain what elements in the soil are best adapted to promote the growth of this excellent fruit, I shall feel that I have done a good service. P.

Nov. 15, 1851.

Remarks.—Our correspondent's remarks are clear and opportune—the subject interesting and the discussion of it a profitable one. The market, at present, is not supplied with this favorite berry. It is selling to-day for eight and nine dollars a barrel. A friend informed us the other morning that he had just taken $80 for his load of cranberries, and that he had sold within a few weeks $800 worth, at about $3 per bushel.

Last spring we set some five hundred plants on upland. They have done well, many of them bearing very large and handsome berries. We shall continue to cultivate them with care, and think we shall be able to speak favorably of them in upland culture hereafter.

For the New England Farmer.

BLOODY MILK.

BY JOSEPH C. BRADLEY.

Gents:—I noticed in your paper of the 1st inst. an inquiry for a remedy for "bloody milk." It is not an uncommon disease, and is not difficult to remedy. My plan is as follows:—Take three or four pieces of the dried root of "garget," as it is commonly called; pulverize it and mix with a quart or two of bran or Indian meal, and give it to the cow. If she has been used to messing, she will eat it readily. Administer the like mess to her once every fourth or fifth day, till the symptoms disappear, which will be the case in two weeks, or less. If you cannot readily procure the root in a dry state, dig up the green root and cut it into pieces about four or five inches in length, and with a piece of thread confine it to the root. Cram it into the cow's mouth and hold her with her nose elevated till she chews and swallows it. In its green state it requires about double what would be required when dry. It is an infallible cure for almost every disease of the glands of either horned cattle or horses.

The same remedy, if seasonably applied to horses which have been afflicted with what is commonly called the horse-ail, having the glands about the throat tumefied in consequence of a want of suppuration, would save hundreds of horses yearly from that fatal disease called the glanders. I have watched the favorable effects of that valuable root upon the diseased glands of cows, oxen and horses, with the highest gratification, for more than half a century. Mr. Upham, your correspondent, is invited to try it and give the results of the remedy in your valuable paper. J. C. B.

Bristol, Addison Co., Vt., Nov. 3, 1851.

Remarks.—For some extended remarks upon the above communication, the reader is referred to another column.

Protecting Half-Hardy Shrubs.—The following method is recommended by the *Horticulturist*:—Raise a small hillock of tan or charcoal, or sand, round the trunk of the shrub, and turn a barrel over it. In order to admit a little light and air, raise the north side of the barrel a couple of inches, and put a stone under it. It is not the cold, but the sunshine after the cold, which destroys half-hardy plants.

For the New England Farmer.

AGRICULTURE—NO. 2.

HISTORY OF VEGETATION.

BY R. H. HOWARD.

We find the primal starting point in the history of vegetation to be the committing of the seed to the soil, wherein it is ultimately to develop itself in all its parts, and wherefrom it is principally to derive its nourishment till maturity.

In this, as in all other developments of nature, we find that the future growth and health of a plant is very much, yea, almost wholly dependent upon the manner in which the seed is primarily brought to develop itself. Hence great care must of needs be taken that it be properly committed to its appropriate element. In this operation we must first take heed that the seed be not buried too deep—that is, not so far under but that the air can have access, as this is absolutely necessary to germination. The earth, therefore, must lie loose and light over it in order that the air may penetrate. Hence the importance of digging, harrowing, plowing, &c. A certain degree of heat and moisture, such as usually takes place in spring, is likewise necessary.

But before we proceed farther, in order that we may more fully understand the nature of germination, let us glance at the different parts of which the seed is composed.

The external covering or envelope is found to contain, besides the germ of the future plant, the substance which is to constitute its nourishment—called the parenchyma. (*a.*)

The seed is generally divided into two compartments, called lobes or cotyledons (*b.*); the dark colored kind of string which divides these lobes is called the radicles (*c.*), as it forms the root of the plant. The figure and size of the seed depend very much upon the cotyledons; these are said to vary in different seeds, and it is plainly seen that while some have only one, as wheat, oats, barley and all the grasses, others have three, and some six. But most seeds, as for instance all varieties of the bean, have but two cotyledons.

When the seed is buried in the earth above about 40°, it imbibes water, which softens and swells these lobes; it then absorbes oxygen, which combines with some of its carbon, and is returned in the form of carbonic acid. This loss of carbon increases the comparative proportion of hydrogen and oxygen in the seed, and excites the saccharine fermentation, by which the paranchymatous matter is converted into a kind of sweet emulsion. In this form it is conveyed into the radicle by vessels for that purpose, and in the meantime the fermentation having caused the seed to burst, the cotyledons are rent asunder, the radicle strikes into the ground and becomes the root of the plant, and hence the fermented liquid is conveyed to the *plumula*, (*d.*) This is a substance enclosed within the lobes of the cotyledons and contiguous to the radicle—from whence the stem arises—whose vessels have been previously distended by the heat of fermentation. The plumula being thus swelled, as it were, by the emulsive fluid, raises itself and springs up to the surface, bearing with it the cotyledons, which, as soon as they come in contact with the air, spread themselves and are transformed into leaves, which at first appear very thick and clumsy. This is owing to their retaining the remains of the parenchyma, with which they still continue to nourish the young plant; as it has not yet sufficient roots and strength to provide for its sustenance from the soil. But when it has arrived at a little greater age, and the radicle shall have sunk somewhat deeper into the earth, sending out its fibrous shoots in every direction, each of which is found to be furnished with an apparatus for sucking up nourishment from the soil, the function of the original leaves being no longer required, they gradually decay, and the plumula becomes a regular stem, which, through a regular process of development, is now prepared to increase to the full stature of a mature plant.

Here we can but note a very striking analogy between the seed and the egg: both require an elevation of temperature to be brought to life, both at first supply with aliment the organized being which they produce, and as soon as this has attained sufficient strength to procure its own nourishment, the egg shells break, whilst in the plant the seed leaves fall off.

Likewise another analogous principle of the vegetable and animal kingdoms we shall observe as we progress—viz, that as in both cases, the chief and original *nourishment* is derived from the *soil*, so from the *atmosphere* is derived their principle of vitality. But how is this? plants do not breathe?—We shall see.

As soon as the young plant feeds from the soil and provides for its sustenance "on its own hook," it requires the assistance of leaves, by which organs the plant throws off its superabundance of fluid. This secretion is much more abundant in the vegetable than in the animal creation, and the great extent of surface is admirably calculated for carrying it on in sufficient quantities. This fluid thus transferred is found to consist of little else than water. The sap by this process is converted into a liquid of great consistence, which is fit to be assimilated to its several parts. Hence the great injury arising from destroying the leaves of a plant, as it not only diminishes this transpiration, but also the absorption by the roots: for it is ascertained that the quantity of sap absorbed from the soil is always in proportion to the quantity of fluid thrown off by the transpiration. We see, then, the necessity of a young plant unfolding its leaves as soon as it commences deriving its nourishment from the soil.

Perhaps it would be proper to remark here that the function of transpiration seems to be confined to the upper surface of the leaf. Whilst, on the contrary, the lower surface, which is somewhat more rough and uneven, and furnished with a kind of hair, or down, is destined to absorb moisture and other such ingredients as the plants derive from the atmosphere.

As soon as the plant makes its appearance above-ground, light, as well as air, also becomes necessary for its preservation. We often observe what a predilection vegetables seem to have for light, which is especially essential to the development of colors and to the thriving of the plant.

But to proceed more directly to the connexion or relation rather of the atmosphere to vegetation, we might with some propriety observe that plants are truly endowed with the property of breathing, as they certainly do derive many principles or properties from that source, and also yield others to it, but during this process of respiration—if thus it

may be termed—we find that directly the opposite properties are made use of than during the respiration of animals, and thus sustaining the desired equilibrium. Indeed, it is chiefly, and I might say wholly owing to the action of the atmosphere and vegetable kingdom upon each other that the air continues always fit to impart to us its vital principle.

But to explain. It is found that animals, during the process of breathing, retain the oxygen of the atmosphere for their own use, and in return load the air with carbonic acid, which, if accumulated, would in process of time render the atmosphere totally unfit for respiration. Here, the vegetable kingdom interferes, and, as oxygen to the plant is not so essential as many other ingredients, such as hydrogen, carbon, &c., it attracts and decomposes the carbonic acid, retains the carbon for its own purposes and retains the oxygen for ours.

Ah, what a striking instance of the harmony of Nature! And what an admirable design of Him who maketh every part of the creation thus to contribute to the support and renovation of each other.

We are now about to bring our observations on this point to a close. We have observed the nice minute arrangement exhibited through all the various stages of development, and have admired the great perfectitude with which the process is effected. The whole "modus operandi" of vegetation, in miniature is before us, and as we review it again and again, *truly* how forcibly are we struck by the "fitness of all things"—of the striking *intent* of the Divine Architect in all His works, as well as that infinite and truly superhuman power every where evinced. Indeed, who, with the least of those qualities which beautify the inner man, can regard these All-wise demonstrations of a kind over-ruling hand without being led "to look through Nature up to Nature's God."

R. H. H.

Burlington, Vt., Oct. 27th, 1851.

Remarks.—(*a.*) *Parenchyma.* The pith or pulp of plants.

(*b.*) *Lobe*, or *Cotyledon.* The part of a plant or fruit, to which the seeds are attached, and which perishes when the seeds sprout.

(*c.*) *Radicle.* That part of the seed of a plant which, upon the seeds vegetating, becomes the root.

(*d.*) *Plumule.* The ascending part of the plant which becomes the stem.

TO MAKE YOUNG PEAR TREES BEAR.

I was afflicted by the sight in my garden for four or five years, of the most luxuriant and thrifty young pear trees, which would not bear, but all their strength ran to wood. Vexed at this, I resolved to try the effect of bending down the branches so as to check the flow of sap and cause them to form fruit buds instead of wood buds. Accordingly, the first week of December, 1847, I filled my pockets with stout twine; I drove down some small pegs into the ground underneath my trees, (which had branched low, so as to make dwarfish heads;) I then tied a string to the end of every long shoot, and gradually bringing down the end of the limb till it curved down so as to make a considerable bend or bow, I fastened it in that position either by tying the other end of the string to the peg, or to another branch or a part of the trunk.

According to my expectation, the tree next year changed its habit of growth, and set an abundance of fruit buds. Since that, I have had plentiful crops of fruit without trouble—take good care not to let many branches go on the upright system. —*Horticulturist.*

THE FARMER.

Drive on, thou sturdy farmer,
Drive cheerfully o'er the field,
The pleasures of a farmer's life,
No other life can yield.

Thou risest with the morning sun,
To till the fruitful earth,
And when thy daily task is done,
Thou seek'st thy peaceful hearth.

Thou lovest not the gaudy town,
With its tumultuous roar;
Plenty and peace thy fireside crown,
And thou dost ask no more.

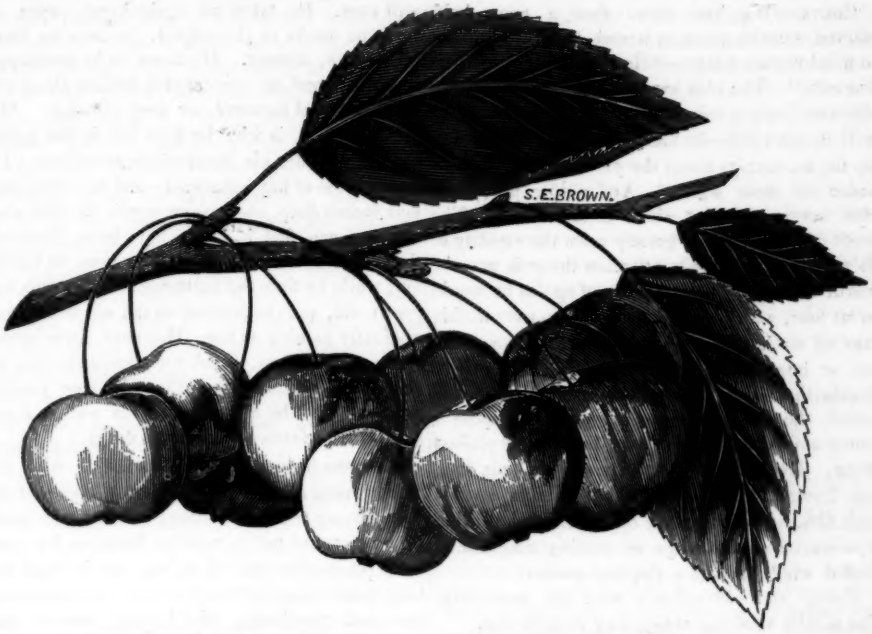
Monarchs in robes with crimson dyed,
Are low, compared with thee;
They are pampered sons of pride,
Thou art God's nobility.

Go on, thou sturdy farmer,
Tread proudly on thy sod,
Thy proud and goodly heritage,
Thou chosen son of God.

TAPIOCA.

A milk-white substance is deposited by the juice of the mandioca root, which being collected, and hardened by exposure to the sun, constitutes the article so well known as tapioca, from which such wholesome and delicious puddings are made. So very poisonous in the root in its natural state, that it has been found to occasion death in a few minutes when administered experimentally to animals, and it is said that the natives used it with great effect many years ago in destroying their Spanish persecutors. It has been ascertained by dissection that this poison operates by means of the nervous system, producing immediate convulsions and exquisite torments, as soon as it is introduced into the stomach. In some instances it has been used in the executions of criminals, in which cases death invariably ensued within five to ten minutes after imbibing it. The fatal principle appears to exist in certain gases which are dissipated by heat. This is conclusively proved, from the harmlessness and highly nutritious properties of the farina, when the process of its manufacture has been completed.

It has been stated on good authority, that a single acre of land planted with the mandioca root, will afford nourishment to more persons than six acres of wheat planted in the same manner, and my own observation fully justifies this assertion. Concerning the value of the plant, Southey remarks with truth, that "If Ceres deserved a place in the mythology of Greece, far more might the deification of that person have been expected who instructed his fellows in the use of mandioca."—*Paraon the Amazon.*



SIBERIAN CRAB APPLE.

This tree forms a dwarf, and is very beautiful in its habits, as the foliage is large, luxuriant and pendent, and usually forming a contrast in color with other apple trees around it. In spring it makes a splendid appearance from its large as well as beautiful blossoms, and in fall it is ornamented with large clusters of red fruit which continue through the season.

The Red Siberian Crab apple is not only ornamental but useful, as it produces valuable fruit which is good for preserves, sauces, tarts, &c.

FARM WORK FOR DECEMBER.

Insects.—There may be days in this month when the weather will be mild and the ground open so as to admit the plow. If such should be the case, it will offer a good opportunity to disturb, and perhaps destroy, some of the enemies who have escaped your vigilance through the summer.

Wire Worm.—This is an old depredator—everybody knows the hard, snapping rascal, better, perhaps, than they know how to get rid of him. He is about an inch long, a yellowish color, and travels upon six legs; he is probably the same worm so often noticed sticking in the potatoes when they are dug. He is found in large numbers, on grounds which have remained a long time without being plowed. They may have turned up their noses at your nostrums of every kind, but if you turn *them* up to a good sharp frost, their day of desolation is ended.

Cut Worm.—This is another destructive insect, sometimes destroying considerable portions of large fields of corn. They come up in the night and eat off the tender shoot, usually just above the surface of the ground, and then return below to digest their booty in peace. They also cut off other young and tender plants. We have "been the death" of great numbers of them, but unfortunately, not till after they had given us unmistakable evidence of their whereabouts, by destroying our corn. Freeze them, then,—it is too delicate an operation to "put salt on their tails," so we recommend the use of the plow to expose them to the frosts of winter.

Weeds.—While you are after the insects, by plowing, you will destroy great numbers of weeds and foul grasses. It is said that by harrowing over a piece of ground in the winter that was plowed in the autumn, witch grass can be killed. If so, we know of no easier way to do it. Mr. Delafield says, in the New York Transactions, that insects will die when exposed to a temperature at from 16° to 14° above the freezing point, and that autumnal plowing should be resorted to, that insects may be turned up from their resting places, exposed to a low temperature, and thus be destroyed. Very early spring plowing would have the same effect; that is, during the time when the frosts are sharp. We have never been under the ground to see how these fellows operate there, but suppose that as the temperature above becomes lower, they sink deeper into the earth, and rise again as the sun penetrates and warms it. If you

can find opportunity, plow, and watch its effects, and tell the world the results.

COLTS.—We have never seen a poor, half-starved, shrinking human wretch, but it has brought to mind the old adage—"He looks like a motherless colt." The idea has prevailed, certainly ever since we knew a colt from a cart, "that any thing will do for a colt—he can get a living by picking up the scatterings about the yard, and fields, "and under the stone walls." And a more pernicious idea never prevailed about a farm-yard. The profit of stock depends greatly upon the rapidity of its growth. By proper attention the colt may be worth as much at three years of age as he would be at four, with indifferent care; you save in this case all the keeping and risk for one year, and the use or interest of the money for the same time. Beside the losses which have occurred from this belief, the practice is a cruel one, to expose a young animal half-fed to the peltings of the pitiless storm. He stands tail to the wind, his hair long and frowzy, and his buttocks and sides covered with filth, a perfect picture of despair, and a fitting representative of the age of rattling clapboards, stuffed windows, and a tippling master.

Young and *old* animals need the most care. The middle aged and strong may do with less.

Keep no more stock than you have plenty of good fodder for, and time to prepare it in the best manner, and to keep them cleanly, and consequently healthy. This will yield a larger profit than any greater number kept with the same amount of care and food.

WHAT IS PRACTICAL FARMING?

Farming has become so respectable an occupation of late, and the title of Farmer so honorable, that grave questions are likely to arise, which may require the intervention of an office of Heraldry, to determine who has the right to bear that title, and what order of precedence shall be established among the various claimants of the exclusive privilege of bearing the ensigns armorial of Husbandry. The *Practical Farmer* undoubtedly stands head and shoulders above everybody else, but the question returns, *Who is the practical farmer?* We have among us all kinds of farmers. First, we have the *amateur* farmer merely, who does not know the *near* from the *off* side of a team, who has *read* of subsoil plows but never saw one, and who knows all about chemistry and geology that can be learned without soiling his boots by stepping out of doors. Ask him if he could conduct the affairs of a farm, and he would give the same answer as the youth who was asked if he could play the flute—"I suppose I could, but I never tried." Manifestly, *this* is not the practical farmer. Then we have the man who prides himself upon being a farmer and nothing else. He lives on the same farm where his great grandfather was born, and inherited his knowledge of husbandry with the old wooden plows, which he still uses. He takes no agricultural paper, and reads no books on the subject, because he knows all about it, already. He is not to be humbugged by any science, or new-fangled notions about composts, mineral manures, or deep plowing. Manure, with him, is what he finds left in the spring, out doors, under his hovel-windows—about a load for each ton of hay consumed—and he plows about four inches deep, and puts manure in the hill where the corn can find it. His boys have discovered that farming *wont* pay, and have gone to California, while he finds the buildings and the tools have grown old, and the interest on the old mortgage is gradually gaining on him. However, he is sure he is one of the class, which are termed the *bone* and *sinew* of the country, and the only true *practical* farmer. That he is a practical, as well as a most *impracticable* farmer, there is no doubt.

Then we have a third class of men who may have worked all their lives upon the land,—of men who, having acquired a taste for farming in youth, after successful toil in another business for years, have returned to their first love, and devoted their later years to agricultural pursuits—of professional men and merchants, who having room in their brains for more than one idea, are conducting their farming operations at the same time with their other affairs—in short, a class composed of all those who believe in *progress* in husbandry, as in everything else, and have the personal direction of their farms. The farmers of this class do not believe that the earth gave up all her secrets at once to the tiller of the soil. They do not think, like the Chinese, that they are precisely in the centre of the world, and all others are *outside barbarians*. They see that the soil of the country has been exhausted by injudicious cropping, and feel the necessity of improvement.

They listen attentively to the chemist, or man of science, who tells them what are the components of the soil, and of the crop, and in what way they can best restore to the barren field the elements of fertility. They are willing to hear about subsoiling and draining, and to *think* upon the reasons given why those operations should be beneficial. They can conceive, and believe, upon paper evidence, that there may be manures besides what are found in the barn-yard. In short, they are willing to "try all things" that they may "hold fast that which is good," or in other words to expend time and money in making experiments for the benefit of their neighbors. These men are emphatically *Practical Farmers*—practical as opposed to the mere *theorist—practical* in the highest sense as men whose labors are of *practical use* to themselves, and their fellow-men.

There is still another class, who, as cultivators of the soil, are *practical* men. We refer to the

gardener and horticulturist,—from whose experiments have been derived many of the most important improvements in the arts of cultivation. Witness the labors of those, both in Europe and in this country, in the production by hybridization, of new and valuable farm products, for the apple, the pear and the peach. The beet, the turnip, the cauliflower, and even the strawberry and raspberry are as much agricultural products when grown *within*, as when grown *without* the pale of the garden fence. These are the men who have uniformly urged the necessity not of shallow plowing, but deep and thorough tillage; not guess work in the adaptation of soils, crops and manures, but a scientific knowledge of each; and should the farmer use the same precision in the adaptation of the constituents he uses for his various crops, as the gardener does for his various tribes of plants, it would need no seer to predict the beneficial effects resulting from it.

A practical cultivator is not *necessarily* a man who daily holds the plow, or drives a team, or shovels manure, or digs ditches. He may or may not put his own hands to such labors; and if he finds it more convenient to devote his time to the general direction of his affairs, while a foreign laborer, who can do nothing else, is hired for such work, he does not forfeit his title of *Practical Farmer*, nor does the laborer merit that appellation.

If to be a practical farmer is merely to labor with the hands, then the farmer who has extended his practical operations on his farm so far that his whole time is required to direct them merely, is no *practical* farmer, although practical results may have multiplied indefinitely around him—an absurdity which can never be tolerated.

CORRECTION.

In our last issue we published a capital article on the "Value of Phosphoric Acid in Agriculture." We found it in our exchanges, credited to the *Western Agriculturist*, and gave it that credit. The article was written by the celebrated chemist, Dr. C. T. Jackson, of this city, for our neighbor, the *Journal of Agriculture;* and although the Journal can bear a filching from its columns as well as any paper in our knowledge, we hasten to make the correction. We are attentive readers of the Journal, but had forgotten the article in question, which was published in its first number in July last.

It is our intention, not only to *give credit*, but to copy as extensively as our limits will permit from our agricultural friends. It costs something to fill the pages of an agricultural sheet with useful thoughts as well as for the paper upon which its articles are printed; and we find much pleasure in disseminating the views of those whose hearts are in the cause, and who are contributing something valuable to the common cause.

It is delightful to see our offspring returning to us from all parts of the land, dressed up in their new suits, and with their smiling faces making their best bow at the same home from which they went forth. But when they return shorn of their good name, with quailing eye and downcast countenance, there is strong reason to suspect that they have been abroad and fallen into evil company!

☞ Mr. John Bancroft, of West Salisbury, suggests that if pork eaters wish for a thin delicate rind to their pork, they must always keep the animals well supplied with a good soft bed. And he is right. Let a man lie on his back on the soft side of a hard plank for 18 months, and we will guarantee that his pork will have a thick skin too.

For the New England Farmer.

RURAL ARCHITECTURE.

BY JOHN L. BLAKE, D. D.

There are few things in a country landscape which more forcibly arrest the attention, or more agreeably impress the mind of a traveller than a comely style of farm-houses, cottages, and other edifices needed on a farm. And scarcely less important in rural scenery is the exhibition about these buildings of substantial and tastefully constructed fences and gates. Such is not the fact simply with the traveller who has a scientific knowledge of the principles of architecture. It is in a measure so with others; for there is in all well-balanced minds an apprehension of what is comely or beautiful, although in thousands of cases the individuals may be unable to determine the reasons for the emotion they experience. Well-formed objects cause a pleasure in the mind of the beholder, and ill-formed and uncouth ones cause a painful sensation, although the individual may be ignorant of the philosophy which occasions the difference. No one can deny this. No one, it might seem, is without experience in illustration of this principle of our nature. All at times must have felt the truth of it. A few instances will be sufficient to render it incontrovertible.

To wit, where are the persons to be found so stupid and so destitute of taste and so insensible to the perfection of Divine wisdom in the material creation as not to gaze with delight on a beautiful human face, a piercing black eye, or well-proportioned limbs; or to turn away in disgust from such as are of a contrary description? Who are so obtuse in their perceptions, as not to be delighted with the regular proportions and the graceful movements of the race-horse, or with the rich plumage of the peacock or the bird of paradise; and, on the other hand, as not to be shocked with the filth of the vulture and the want of symmetry in numerous other animals? The same impulsive attribute of the human mind operates in relation to architectural structures. It operates also in regard to dress, in regard to furniture, in regard to pleasure carriages, in regard to all kinds of machinery, and in regard to all kinds of implements for the various manual operations of life. Why not then in regard to architecture? It does so operate in regard to it. Who would fail, however ignorant he might be of the principles of archi-

tecture, to bear testimony of the fact, when on the one hand beholding an edifice for a human habitation with one corner lower than the others, with windows and doors of all shapes but right angular ones, with its main timbers more resembling the natural growth of trees than right lines, and with numerous other similar outrages upon mechanical skill; and, on the other hand, beholding one with proportions of perfect order, denoting adaptation to convenience and durability as well as to the canons of a well cultivated taste, and this moreover encompassed with equally well constructed out-buildings, so arranged as to furnish materials for an elegant landscape? There is not one person in a thousand who would not mark the difference. There is not one person in a hundred who would not be impressed with the difference as we have stated.

In this country there has generally been a deplorable deficiency of taste, in regard to convenience and comfort in farm edifices. In multitudes of cases the barn is known from the house rather because the occupants of the one have four legs and those of the other have two, than from any prominent difference of architecture. By removing the windows and chimneys from the latter to the former, the occupants of the two might exchange quarters without much loss to the one party, or gain to the other. For this there is no necessity. It is the result mainly of a want of good taste, and a little architectural knowledge within the reach of all. The difference of cost between such a style of structure, and one that commends itself to the man of taste, is not of any magnitude; the materials in both cases are about the same. All the difference is in the amount of labor required, and this cannot be considerable, if the builder understands his business. Surely it is as easy to erect houses and other buildings in good taste, as to erect those presenting every species of incongruity and deformity; and these different structures shadow forth the good sense of the proprietors, or the want of good sense, as the case may be. We think a good agricultural education should include correct notions on rural architecture. These notions are to be acquired principally from reading and studying books relating to the subject. Fortunately such books are not rare. Several have recently been published that will do much in remedying the evils of which we complain.

As little importance as farmers have generally attached to rural architecture, it is believed safe in affirming, that farms would frequently sell for ten per cent. more, when due attention has been paid to this subject; that every dollar of extra outlay upon it will bring to the proprietor ten dollars in return—a thousand per cent. And this is in addition to the pleasure every day experienced by him in the occupancy of well devised architectural premises. There is now an improving taste in our country relating to this matter. Several of the books alluded to have been instrumental in promoting it. We name a few of them. The first that fell under our notice was Downing's Rural Architecture, published by John Wiley, of New York. The next was Country Houses, by the same author, published by D. Appleton & Co., New York. These books are beautifully got up, and are among the most appropriate for Holiday Gifts, or for ornaments on the centre-table, as well as the advancement of their more legitimate aims. More recently there has been published by Charles Scribner, of New York, Wheeler's Rural Homes, a work much less extended and expensive, but equally well calculated to be useful, and equally beautiful as a book for ornament. There are other works richly deserving commendation, but these are among the best of their class, and we think the very best. Several of our agricultural journals are also contributing to an improved taste for Rural Architecture. All such efforts are of great value, and will lead to the best results. Let the improvements of which we speak become general in our country, and there will be a charm in rural life hitherto but little realized; the occupation of husbandry will experience an elevation hitherto but little imagined; and, a residence on the farm will be mainly relieved from that repulsive attribute now by many in the city ascribed to it.

FLEMING GROVE.

Essex County, N. J., Nov. 18, 1851.

For the New England Farmer.

THE CORN CROP.

BY JOHN BROOKS.

MR. EDITOR:—In a conversation with you, last winter, I remarked that I was collecting statistics to show the comparative average crop, cost and profits on growing corn and wheat, and the profits on raising hogs in New England and the Western States. I have the average crop and cost of cultivating one acre of corn and one acre of wheat, in sixteen of the principal grain-growing States in the union; but for fear of being tedious, I will compare only three New England States, viz: Massachusetts, New Hampshire and Vermont, with three of the Western States, viz: Ohio, Indiana and Illinois. I have collected what I give below, from the Patent Office Reports, and from other reliable sources, and I believe it will be found as near the truth as the present state of information upon the subject will admit.

The crops and prices and cost of cultivation are an average of ten years, from 1840 to 1850.

Corn, average crop in Mass., 40 bushels the acre.	
" " price the bushel, 80c, is	32,00
Value of stover the acre,	7,00
Value of the whole crop per acre,	39,00
Cost of cultivation, including interest on land,	20,00
Profits per acre,	$19,00
Wheat, average crop in Mass., 18 bushels the acre.	
" " price $1,34 the bushel, is	24,12
Value of straw the acre,	5,00
Value of the whole crop the acre,	29,12
Cost of cultivation, including interest on land,	18,00
Profits per acre,	$11,12
Corn, average crop in N. H., 40 bushels the acre.	
" " price the bushel 80c, is	32,00
Value of stover the acre,	6,00
Value of the whole crop the acre,	38,00
Cost of cultivation, including interest on land,	20,00
Profits per acre,	$18,00
Wheat, average crop in N. H., 20 bushels the acre.	
" " price $1,34, is	26,80

Value of straw the acre,	5,00
Value of whole crop the acre,	31,80
Cost of cultivation, including interest on land,	22,00
Profits per acre,	$9,80
Corn, average crop in Vermont, 40 bushels the acre.	
" " price the bushel 73c, is	29,20
Value of stover the acre,	4,00
Value of whole crop the acre,	33,20
Cost of cultivation, including interest,	16,00
Profits per acre,	$17,20
Wheat, average crop in Vermont, 20 bushels the acre.	
" " price $1,34, is	26,80
Value of straw,	4,00
Value of the whole crop the acre,	30,80
Cost of cultivation, including interest on land,	20,00
Profits per acre,	$10,80
Corn, average crop in Ohio, 50 bushels the acre.	
" " price 28 cents, is	14,00
Value of stover,	3,00
Value of whole crop the acre,	17,00
Cost of cultivation, including interest on land,	7,00
Profits per acre,	$10,00
Wheat, average crop in Ohio, 20 bushels the acre.	
" " price 78 cents, is	15,60
Value of straw,	3,00
Value of whole crop the acre,	18,60
Cost of cultivation, including interest,	8,00
Profits per acre,	$10,60
Corn average crop in Indiana, 60 bushels the acre.	
" " price 26 cents, is	15,60
Value of stover,	1,00
Value of whole crop the acre,	16,60
Cost of cultivation, including interest on land,	7,20
Profits per acre,	$9,40
Wheat, average crop in Indiana, 20 bushels the acre.	
" " price 75 cents, is	15,00
Value of straw,	1,00
Value of whole crop the acre,	16,00
Cost of cultivation, including interest on land,	8,00
Profits per acre,	$8,00
Corn, average crop in Illinois, 60 bushels the acre.	
" " price 26 cents, is	15,60
Value of stover,	1,00
Value of whole crop the acre,	16,60
Cost of cultivation, including interest on land,	7,20
Profits per acre,	$9,40
Wheat, average crop in Illinois, 20 bushels the acre.	
" " price the bushel 75 cents, is	15,00
Value of straw,	1,00
Value of whole crop the acre,	16,00
Cost of cultivation, including interest on land,	8.00
Profits per acre,	$8,00
Profit on one acre of corn in Massachusetts,	19,00
" " " N. Hampshire,	18,00
" " " Vermont,	17,20
Average of the three States,	$18,06
Profit on one acre of corn in Ohio,	10,00
" " " Indiana,	9,40
" " " Illinois,	9,40
Average of the three States,	$9,60
Balance of profits on one acre of corn in favor of New England States,	8,46
Profit on one acre of wheat in Massachusetts,	11,12
" " " N. Hampshire,	9,80
" " " Vermont,	10,80
Average of the three States,	$10,57
Profit, on one acre of wheat in Ohio,	10,60
" " " Indiana,	8,00
" " " Illinois,	8,00
Average of the three States,	$8,87
Balance of profits on one acre of wheat in favor of New England States,	1,70

The corn grown in Massachusetts, Vermont and New Hampshire, is of the yellow flint variety, and will weigh 60 pounds the bushel; allowing 4 pounds of corn to make one pound of pork, one bushel will make 15 pounds. The average price of pork in Boston market for ten years ending with the year 1850, was 6 12-100 dollars the hundred. One bushel of corn fed to hogs would come to 91 80-100 cents; 40 bushels, the average crop in Massachusetts, Vermont, and New Hampshire, would come to 36,72

Average value of stover in these three States, 5,66

Whole value of one acre when fed to hogs, $42,38

Deduct average cost of cultivation in the three States, 18,66

Profits on one acre of corn when fed to hogs in the three New England States, $23,72

Corn grown in the States of Ohio, Indiana and Illinois, is of the soft kind, and will not weigh more than 56 pounds the bushel; one bushel will make 14 pounds of pork. The average price paid for pork in Cincinnati, Ohio, by one of the largest dealers in Boston, for ten years, ending with the year 1850, was 2 95-100 dollars the hundred. One bushel of corn fed to pork would come to 41 30-100 cents; 56¾ bushels, the average crop per acre in the three States, would come to 23,40

Average value of stover in these three States, 1,66

Whole value of one acre when fed to hogs, $25,06

Deduct average cost of cultivation in the three States, 7,12

Profits on one acre of corn when fed to pork in the three Western States, $17,93

Balance of profits on one acre of corn when fed to pork in favor of the New England States of $5,79

Princeton, Nov. 15, 1851. J. B.

Remarks.—The corn crop is, in our opinion, the most profitable field crop produced in New England. It has been somewhat neglected of late, because it was supposed that other crops would pay better. Such lucid comparisons as are brought together above, by our correspondent, will go far to correct the error under which many are laboring.

We hope he will find opportunity to write again on this important subject.

For the New England Farmer.

REMEDY FOR BLOODY MILK.

Gentlemen:—I noticed in the Nov. number of your paper an inquiry from J. E. Upham in regard to the cause and cure of cows giving bloody milk; and you close your remarks by requesting some one acquainted with the physiology of the cow to enlighten you on the subject. I do not profess to be much acquainted with the physiology of the cow, but have had two cases of cows giving bloody milk, both of which (I think) were caused by external injury, and were cured by the following means; bleeding about four inches forward of the udder in the large vein on that side of the belly where the milk is most affected, (as it is frequently confined to one quarter of the udder) and giving one ounce of saltpetre thoroughly pulverised.—Wash the bag carefully with salt and water, and extract the milk as clean as possible twice a day at this season of the year, or three times in the hot part of the season.

Very respectfully yours,

Horace Carpenter.

Worcester, Vt., Nov. 15, 1851.

Remarks.—Since the recent discussion of this subject in our columns we have made numerous inquiries, and find that the disease constantly prevails to a considerable extent, and consequently there must be in the aggregate a very serious loss. In conversation with a distinguished physician yesterday from New York, who passed his youth in actual operations on the farm, he informed us that the "garget root" is a specific in the disease in question, but that if used at all it must be with great discretion. He also stated that some remedies having a powerful influence on men, were innoxious upon animals, as for instance:—arsenic taken into the stomach of a dog proves harmless, while it would readily destroy human life. This may be the case in some measure with garget. Saltpetre is sometimes used in small portions with good effect, as a medicine for horses; we know nothing of its effects upon cattle.

If these discussions lead to greater care and kindness in the treatment of diseased animals we shall consider the space devoted to them well occupied.

USES OF CORN—HUSK BEDS, &C.

Messrs. Editors:—The value of that king of cereals—Indian Corn—has scarcely begun to be appreciated. Not only is its grain the most wholesome and nutritive food for man and beast, and its stalks excellent forage for stock, but its husks make first-rate beds for the tired husbandman and his family. Let the inner husks be saved by the farmer, and his wife and daughters can manufacture them into most healthy and agreeable couches. The hard ends of the husks should be clipped off with a pair of shears, and they may be put in the ticks whole, or what is better, split in shreds with a hatchell. Such a bed is soft and pleasant, without the enervating effects of feathers, and far less expensive than mattrasses. They are also very durable. (*a.*)

By the way, the cheapest and most economical way of keeping horses through the winter season, where the work is not heavy, is to cut corn stalks and mix them with a little mill-feed. They can be kept in this way with but little hay or grain, which at the present prices of these articles is an item worthy of consideration.

Speaking of cheap feed for horses reminds me of the way a friend of mine kept his horse last winter. He is a clergyman, and using his horse only about once a week, thought it best to be as saving of expense in keeping him as possible. Having no pig, he gave him the slops of the kitchen, which he soon seemed to relish, and kept him on these and a "jag" of straw which a friend gave him, all winter, and kept him in good order with little or no expense for fodder. If this should meet the eye of my reverend friend, I trust he will pardon me for making it public, for in this day of economy I think he deserves a special premium.—*Rural New-Yorker.*

Remarks.—(*a.*) We are assured by those who have used husks for under beds for years, that they are much better without splitting, as they do not mat together so soon.—Ed. N. E. F.

How to Measure an Acre.—The American Farmer gives the following direction for measuring an acre of land. The information will not only be valuable to farmers, but to the reader generally.

Land—30¼ square rods make a square rood; 4 square roods make 1 acre; 640 acres make one square mile; 4819 square yards or 157 rods make one acre. In measuring an acre by yards, the usual practice is to trace off 79 yards in length and 79 yards in width; this in a rough way may be considered near enough for practical purposes, but as 79 yards either way make 4999 square yards, it exceeds one acre by 69 square yards. To determine an accurate acre, it should be measured 78 yards in length by 66 1-7 yards in breadth. The same result may be arrived at by measuring 229 feet in length and 196 feet in width, or by measuring 78¼ yards in length by 66 yards in breadth.

Popular Religion.—He that breaks off the yoke of obedience, and unties the bands of discipline, and preaches a cheap religion, and presents heaven in the midst of flowers, and strews carpets softer than the Asian luxury in the way, and sets the songs of Sion to the tunes of the Persian and lighter airs, and offers great liberty of living, and reconciles eternity with present enjoyment,—he shall have his schools filled with disciples: but he that preaches the Cross and the severities of Christianity, and the strictnesses of a holy life, shall have the lot of his blessed Lord; he shall be thought ill of, and deserted.—*Taylor.*

☞ "There is nothing, said Sir Samuel Romilly, "by which I have through life more profited than by the just observations, the good opinion, and the sincere and gentle encouragement of an amiable and sensible woman."

Mechanics' Department, Arts, &c.

NEW BRICK MACHINE.

On Thursday of last week we visited the Steam Brick Works of Tufts & Boyden, in Somerville, to witness the operation of a machine for making bricks from dry clay, invented and patented by Woodworth & Mower, of Boston. This machine is of iron, simple, compact and massive, weighing seventeen tons, and was made by Lyman Kingsley, Esq., at his extensive works at Canton, Mass., and is a good sample of the substantial and perfect work for which Mr. Kingsley's establishment is justly celebrated. It works with great steadiness and precision, and turns out *three thousand bricks per hour*. The machine and the clay pulverizer are operated by a steam engine of twenty horse power. The clay is first dried, then ground, by passing between heavy rollers, then screened or sifted, and passed into the machine in a uniform state, where it is subjected to the immense power of the machine, and a beautiful, perfect face brick is produced, almost as smooth and dense as polished marble. The bricks are taken from the machine and immediately set in the kilns ready for burning, thereby obviating the necessity of spreading on the yard to dry before burning, as well as injury or loss from wet weather. By this process, a *superior face* brick can be produced at *less expense* than the coarsest common brick by the old method.

This machine is the result of three years' close application and hard study on the part of the patentees, Messrs. Woodworth & Mower, and may justly be considered one of the most valuable and important inventions which have been made. No one can witness its operations, and compare it with the old fashioned way of brick-making, without being filled with surprise and admiration.—*Boston Journal.*

Curious Machinery.—Among the numerous and ingenious machines in the various workshops and establishments at the Charlestown Navy Yard, in this State, is what may be called a deck-plug making machine. It is extremely simple, and upon the plan of a circular saw. It is moved by steam power, and is so speedy and effective in its operation, that from five thousand to ten thousand deck-plugs may be manufactured by the aid of it in a single day—the greater or less number depending, in an important degree, upon the quantity and state of the wood, wet or dry, used for the purpose. These plugs are of all sizes, and are mainly used to fill up the spaces left in the decks and other parts of the government ships, when the bolts and spikes are driven home. The saving to the United States, produced by this single apparatus in making their plugs, over the old mode, is as great in its way, perhaps, as that accomplished by any other machine in this Navy Yard, while, at the same time, it very materially lessens the toil and hard labor of the workmen in the public service.—*Courier.*

Useful Invention.—Mr. George C. Todd, of this city, has invented a machine, for which he has secured a patent, by the aid of which shoe patterns of all sizes may be quickly and accurately drawn from a single pattern—each copy, of whatever size, being proportioned exactly like the one from which it is drawn. We have seen Mr. Todd's apparatus, and have witnessed its operation. It is simple and convenient, and will be found, we think, valuable to shoe manufacturers.—*Lynn News.*

Boy's Department.

THE WAY TO BE BRAVE.

Speak kindly to that poor old man,
Pick up his fallen cane,
And place it gently in his hand,
That he may walk again.
His bundle, too, replace with care
Beneath his trembling arm;
Brave all the taunts that you may hear,
To give his life a charm.

A braver deed than scorners boast
Will be your triumph then;
A braver deed than annals tell
Of some distinguished men.
Yes; leave that thoughtless, sneering crowd,
Dare to be good and kind;
Then let them laugh, as laugh they may,
Pass on; but never mind.

Pass on; but think once more of him,
The wreck that you have seen,
How once a happy boy like you
He sported on the green;
A cloudless sky above his head,
The future bright and fair,
And friends all watching o'er his couch,
To breathe affection's prayer.

But ah, the change! He wanders now,
Forsaken, lone and sad—
Thrice blessed is the task of those
Who strive to make him glad.
Speak kindly to that poor old man,
Pick up his fallen cane,
For that will ease his burdened heart,
And make him smile again.

ANECDOTE OF A YOUNG INDIAN.

An English gentleman and his friends travelling through a piece of woods in one of the western States, took with him an Indian lad as a guide. In the course of the day, they separated, and one of them finding some curious berries, sent them to his companion by the lad, with a note specifying the number. The one who received the present, found some of the berries missing, and having reprimanded the boy for eating or losing them, sent him back for more. The gentleman forwarded a second parcel, with the number again marked on the note. The boy played the same trick with these, delivering only part of what he received. This procured a second scolding. Whereupon the Indian fell down upon his knees, and kissed the paper, saying, "I found out, the first time, this paper was a witch or conjuror; but now he has proved his power to be supernatural indeed; because he tells *that which he did not see;* for when I flung away these last berries, for the sake of experiment, I took care to *slip the note under a stone*, that it might not know what was passing."

The Boys in Maine.—We cannot help thinking what a set of boys, the boys in Maine will be. If the present good laws continue, they will never see, smell or taste the fiery liquors which have

proved so ruinous to thousands and millions. And the little sailors, what fine fellows! we reckon hey will give up fighting, swearing and be in high demand all the world over. We hope Maine will not be the only State that will send out 50,000 young and thorough teetotalers. Three cheers, boys, for Maine.—*Youth's Temperance Advocate.*

Ladies' Department.

HOW TO BURN COAL.

The art of burning coal is not properly understood as it ought to be. Too much coal is usually placed in the stove, by which the draught is destroyed and the gases are imperfectly consumed. The Miners' Journal of Pottsville says there are two errors in the way we burn coal, by which more than one-half is wasted. 1st. We have to shut the door of our stove or furnace, to make a temporary over combustion at one time, and at another time we have to leave open the door and let in cold air to cool off. 2. The gas that ascends our chimneys carries off with it a deal of coal that is unburned, merely coal in vapor, which gives out little heat for want of air to consume it. We lose the most of the unconsumed vapor of coal when the door is shut. When it is open the vapor is consumed, but the heat is reduced by a flood of cold air and carried up the chimney. What is required then is an air-tight door over the ash pit, through which you can let in just what air is necessary for quick or slow combustion as desired. The door that admits the coal should be tight, and should never be opened except to put coal in. A small flue should admit a stream of air, heated by contact with the stove, to mix with the gas on top of the fire. In buying a stove, if you find that the stove or furnace door must be left open when you want to moderate your fire, reject it; for it is essentially wrong in its construction, and it will consume three tons of coal where one would answer if the draft door were air-tight.

One of the "Rights."—We copy the followlowing gentle reminder from the Cambridge Chronicle—without the least idea, however, that it will apply to any of *our* "Farmers' Wives," whose butter, we doubt not, is beyond any such suspicion:—

"Uncle Jonas says that among all the sayings and doings of the women about their 'Rights,' he's a little surprised to find such a total silence on the subject of *their right to make good* Butter. He thinks that the assertion of this right at the present time would at once place them in an impregnable position; beyond the reach or hope of any and all assailants. In his opinion it is a highly disagreeable circumstance at table to be 'unexpectedly called upon' to bite a large lump of salt, to receive a spirt of buttermilk or imbibe the taste of rancid fat; and is besides exceedingly dangerous as inducing a habit on the part of gentlemen, of making up mouths at 'women's work.'"

Apple Pudding, No. 1.—Half a pound of mashed apple, half a pound of butter, half a pound of sugar, five eggs, half a nutmeg; two table spoonsful of brandy, or rose-water if preferred. Peel the apples and core them; cut them in small pieces, and stew them in very little water till they are soft. Pass them through a sieve to free them from lumps. Beat the butter and sugar smooth, whisk the eggs and add to it; then stir in the apples, (which should be half a pound when mashed,) brandy or rose-water and nutmeg. Cover your pie plates with a rich crust and bake in a moderate oven. These are very rich.

Apple Pudding, No 2.—One pound of grated apple, half a pound of butter, half a pound of sugar, six eggs, half a pint of cream, the juice and grated rind of one lemon Grate your apples; beat the butter and sugar very light, whisk the eggs and add to it, add the apples, cream and lemon. Stir all together, line your pie plates with rich paste, pour in the mixture and bake it. A few currants may be added.

Plain Apple Pudding, No. 3.—One pound of the mashed apples, a quarter of a pound of butter, sugar to the taste, six eggs, one tea spoonful of cinnamon, half a nutmeg, brandy or rose-water to the taste. Peel the apples, cut them in slices, and stew them in a very little water till they are tender. Mash them fine, and while they are hot add the butter. Set them away to cool. Beat the eggs, and when the apples are cold add the eggs and sugar, liquor, and spice. Cover your pie plates with plain paste, fill them and bake in a moderate oven. A quarter of a pound of dried currants may be added if preferred.—*National Cook Book.*

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☞ All letters and communications should be addressed post-paid to Raynolds & Nourse, Quincy Hall, Boston.